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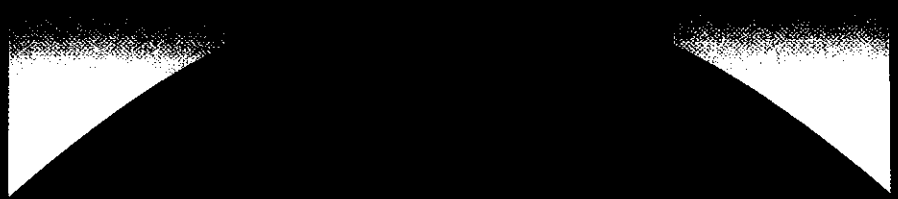

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Background & Objectives: Fibrosarcoma is one of the soft tissue sarcomas types. They include 5% of neoplasias in adult patients and 10 % of children tumors. Using herbal medicines that has apoptotic induction impact is one of ways in cancer treatments. In this study, for the first time we examine cytotoxic effect and inducing of apoptosis *Ornithogalum Caspidatum* extract (an Iranian plant) have been assayed on cancer cell line WEHI-164 , model of fibrosarcoma and comparing with Taxol. **Methods:** This is a basic study that the cell line WEHI-164 have been under gone different concentrations of *Ornithogalum Caspidatum* extract and Taxol ,in various times of 6 , 12 and 24 hours treatment and after that we examined cell viability and cytotoxic effects by MTT Assay. For studying apoptosis, we chose 12 hours and the concentrations before and after of IC50 extract, using ELISA (Cell Death Detection kit) and Flow cytometry (Annexin V) to assay intra and extracellular changes in WEHI-164, that happen during apoptosis. **Results:** *Ornithogalum Caspidatum* extract have cytotoxic effects in three mention times. Cytotoxic effects of extract increase with time and concentration, when cytotoxicity increasing the cell viability decreasing. In ELISA, the results showed that the extract causing apoptosis. In Flow cytometry, we found that there are four group of cell including: viable cells, necrotic cells, apoptotic cells and apo-necrosis cells. When the concentration increased the group of apo-necrosis cells and necrotic cells increasing and in low concentration of extract the viable cells and apoptotic cells increasing. Taxol has cytotoxic effect and inducing programmed cell death in WEHI-164 in lower concentration than *Ornithogalum Caspidatum* extract ($P< 0.001$). **Conclusion:** In general, the cytotoxic effect and induction of apoptosis by *Ornithogalum Caspidatum* extract depend on time and concentration. Toxol causing apoptosis and cytoxicity on WEHI-164 in low concentration because, Taxol is more pure than this herb extract. These data are first report on potential anticancer activity of *Ornithogalum Caspidatum* extract on fibrosarcoma.

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Evidences of Treg Cells Increase before Metastasis in Patients with Non-Small Cell Lung Cancer

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Background & Objective: Recent studies have shown that the function of Regulatory T (Treg) cells plays a pivotal role in the suppression of effective immune responses against cancer. Background & Objective: The purpose of the study was to evaluate the prevalence of FoxP3 positive $CD4^+CD25^+$ Treg cells in both metastatic and non-metastatic stages of non small cell lung cancer (NSCLC) patients and healthy controls. **Methods:** Twenty one new cases with NSCLC who received no prior treatment as well as sixteen sex-age matched healthy donors were recruited. Mononuclear cells were isolated and intracellular staining of FoxP3 and surface staining of CD4 and CD25 molecules followed by Flow cytometric analysis was used to evaluate the prevalence of targeted cells. **Results:** Compared with healthy donors, NSCLC patients had an increased percentage of Regulatory T cells (7.91 ± 4.13 vs. 3.85 ± 1.76, $P< 0.05$). The proportion of Treg cells in the patients was directly proportional to stage increase (stage II= 5.16 ± 2.4, stage III= 7.94 ± 4.3, stage IV=11.96 ± 2.2, $P< 0.05$) and was also significantly higher in metastatic than non metastatic stages (11.96 ± 2.22 vs. 6.83 ± 3.8, $P< 0.05$). Additionally and interestingly, looking at the sub-stages indicated that the prevalence of Treg cells is the same among pre-metastatic (IIIB) and metastatic (IV) sub-stages, but at the same time, significantly different from non metastatic sub-stages (10.29 ± 3.and 11.96 ± 2.22 vs. 6.30 ± 3.76, $P< 0.05$). **Conclusion:** Our data not only verify the previous data of Treg cell increase in cancer but also provide new insights in the relation of metastasis and Treg cell increase. The results indicated that a